

REMARKS

Claims 5 to 14 were rejected under 35 U.S.C. 102(b) as being anticipated by Honda et al. (JP 10-144333).

Reconsideration of the application based on the following remarks is respectfully requested.

Rejections under 102(b)

Claims 5 to 14 were rejected under 35 U.S.C. 102(b) as being anticipated by Honda et al. (JP 10-144333).

Honda et al. discloses a fuel cell system that includes a fuel cell 2 having a heat exchanger part 25, an adsorber 5 for rapid warming of fuel cell 2, and a condensation evaporator 6 which is open for free passage to adsorber 5. (Computer translation of Honda et al., paragraph [0009]). Adsorber 5 includes a heat exchanging part 51 through which heat exchanging fluid flows into inside of a well-closed container 50. (Id., paragraph [0012]). Heat exchanging part 25 and heat exchanging part 51 are connected in series by a hydraulic circuit A. (Id., paragraph [0013]).

Claim 5 recites “[a] fuel cell system for mobile use comprising:
a fuel cell unit for generating electrical energy and fuel cell waste products;
a cooling circuit assigned to the fuel cell unit and having a heat exchanger downstream of the fuel cell unit;

an adsorption accumulator assigned to the fuel cell unit and forming a heat store adapted to release heat when adsorbing the fuel cell waste products, the adsorption accumulator being operatively thermally connected to the heat exchanger;

a first line connected to the fuel cell unit discharging the fuel cell waste products from the fuel cell unit; and

a second line connecting the first line to the adsorption accumulator for feeding the fuel cell waste products to the adsorption accumulator.”

It is respectfully submitted that Honda et al. in no way discloses the requirement of claim 5 of “an adsorption accumulator assigned to the fuel cell unit and forming a heat store adapted to release heat when adsorbing the fuel cell waste products.” (emphasis added). Adsorber 5 of Honda et al. in no way forms a heat store adapted to release heat when adsorbing the fuel cell waste products. The language of claim 5 as a whole clearly requires a system that is configured such that an adsorption accumulator adsorbs fuel cell waste products and releases heat upon adsorbing the fuel cell waste products. Honda et al. completely fails to teach or disclose such a relationship between fuel cell 2 and adsorber 5 and does not even mention any use at all for waste products of fuel cell 2. Because Honda et al. fails to disclose a system that includes the relationship between a fuel cell and an adsorption accumulator as required by claim 5, Honda et al. does not teach each and every limitation of claim 5 and thus Honda et al. does not anticipate claim 5.

It is also respectfully submitted that Honda et al. not disclose the requirements of claim 5 of “a first line connected to the fuel cell unit discharging the fuel cell waste products from the fuel cell unit” and “a second line connecting the first line to the adsorption accumulator for feeding the fuel cell waste products to the adsorption accumulator.” The Office Action does not even attempt to point out in Honda et al. where the “first line” or the “second line” of claim 5 are disclosed in Honda et al. The only connection between fuel cell 2 and adsorbed 5 described in Honda et al. is hydraulic circuit A, which he Examiner alleges corresponds to the “cooling circuit” of claim 5, and which clearly is not the “first line” or the “second line” required by claim 5. The language of claim 5 clearly requires that the claimed “cooling circuit” is distinct from both the claimed “first line” and “second line.” Additionally, because Honda et al. does not even mention any what happens with waste products of fuel cell 2, Honda et al. in no way discloses the claimed relationship between a fuel cell, a first line, a second line and an adsorption accumulation required by claim 5.

Finally, Applicant notes that the Examiner has alleged that Honda et al. anticipates claim 5 because certain portions of claim 5 are merely functional language and not structural limitations of the claim. However, as evident, the limitations discussed above are structural limitations, i.e., the adsorption accumulator “adapted to release heat when adsorbing the fuel cell

waste products,” the first line and second line. Clearly, as discussed above, Honda et al. does not disclose all of the structural limitations of claim 5.

Based on the foregoing, withdrawal of the rejection under 35 U.S.C. 102(b) of claim 5 and its dependent claims 6 and 9 to 14 is respectfully requested.

With further respect to dependent claim 12, Honda et al. in no way discloses “the fuel cell system as recited in claim 5 further comprising an actuator coupled between the fuel cell and the adsorption accumulator, the actuator being adapted to pass the fuel cell waste products from the first line to the second line during a cold start of the fuel cell system and to prevent the passage of the fuel cell waste products from the first line to the second line after the cold start” as recited in claim 12. The three-way-type selector valve 41, which the Office Action alleges corresponds to the “actuator” of claim 12, is a part of hydraulic circuit A of Honda et al. and thus is in no way adapted to interact with the claimed “first line” and the “second line” as required by claim 12.

For this reason also, withdrawal of the rejection under 35 U.S.C. 102(b) of claim 12 is respectfully requested.

With further respect to dependent claim 13, Honda et al. in no way discloses “the fuel cell system as recited in claim 12 further comprising a second actuator located between the fuel cell and the heat exchanger, the second actuator adapted to pass coolant heated by the fuel cell to the heat exchanger to charge the adsorption accumulator after the cold start” as recited in claim 13. The three-way-type selector valve 42, which the Office Action alleges corresponds to the “second actuator” of claim 13, is adapted to pass heat exchanging fluid from heat exchanging part 51 to fuel cell 2 and thus is not arranged with the claimed system as required by claim 13.

For this reason also, withdrawal of the rejection under 35 U.S.C. 102(b) of claim 12 is respectfully requested.

Claim 7 recites “[a] method for operating a fuel cell system for mobile use, the fuel cell system including a fuel cell unit for generating electrical energy and fuel cell waste products, a cooling circuit assigned to the fuel cell unit and having a heat exchanger downstream of the fuel cell unit, an adsorption accumulator assigned to the fuel cell unit and forming a heat store

adapted to release heat when adsorbing the fuel cell waste products, the adsorption accumulator being operatively thermally connected to the heat exchanger, a first line connected to the fuel cell unit for discharging the fuel cell waste products from the fuel cell unit, and a second line connecting the first line to the adsorption accumulator for feeding the fuel cell waste products to the adsorption accumulator, the method comprising:

when the fuel cell system is starting up, heating coolant in the cooling circuit via the heat exchanger using heat stored in the adsorption accumulator, with the fuel cell waste products products being fed to the adsorption accumulator at the same time, the fuel cell waste products including waste gas, and

in normal operation, feeding heat to the adsorption accumulator via the heat exchanger, with the coolant in the cooling circuit heated by the fuel cell unit being fed to the heat exchanger.”

It is respectfully submitted that Honda et al. does not disclose the step of claim 7 of “when the fuel cell system is starting up, heating coolant in the cooling circuit via the heat exchanger using heat stored in the adsorption accumulator, with the fuel cell waste products being fed to the adsorption accumulator at the same time, the fuel cell waste products including waste gas.” Honda et al. in no way discloses feeding any waste products from fuel cell 2 to adsorbed 5. As discussed above with respect to the corresponding apparatus claim, Honda et al. does not even mention any use at all for waste products of fuel cell 2. Because Honda et al. fails to disclose this step of feeding waste products from a fuel cell to an adsorption accumulator as required by claim 7, Honda et al. does not teach each and every limitation of claim 5 and thus Honda et al. does not anticipate claim 7.

Based on the foregoing, withdrawal of the rejection under 35 U.S.C. 102(b) of claim 7 and its dependent claim 8 is respectfully requested.

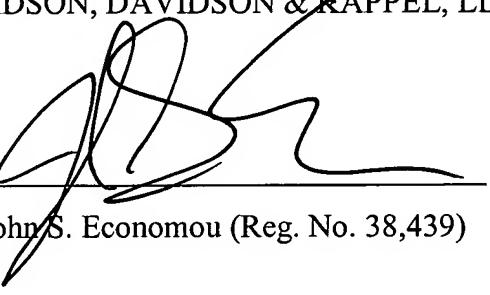
CONCLUSION

It is respectfully submitted that the application is in condition for allowance and applicants respectfully request such action.

If any additional fees are deemed to be due at this time, the Assistant Commissioner is authorized to charge payment of the same to Deposit Account No. 50-0552.

Respectfully submitted,

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By: 

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